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A SURVEY OF FUNGOUS INFECTION IN THE CAMBRIDGE AREA 1948–1955.

C. HOWARD WHITTLE, M.D., F.R.C.P.
United Cambridge Hospitals and University of Cambridge.

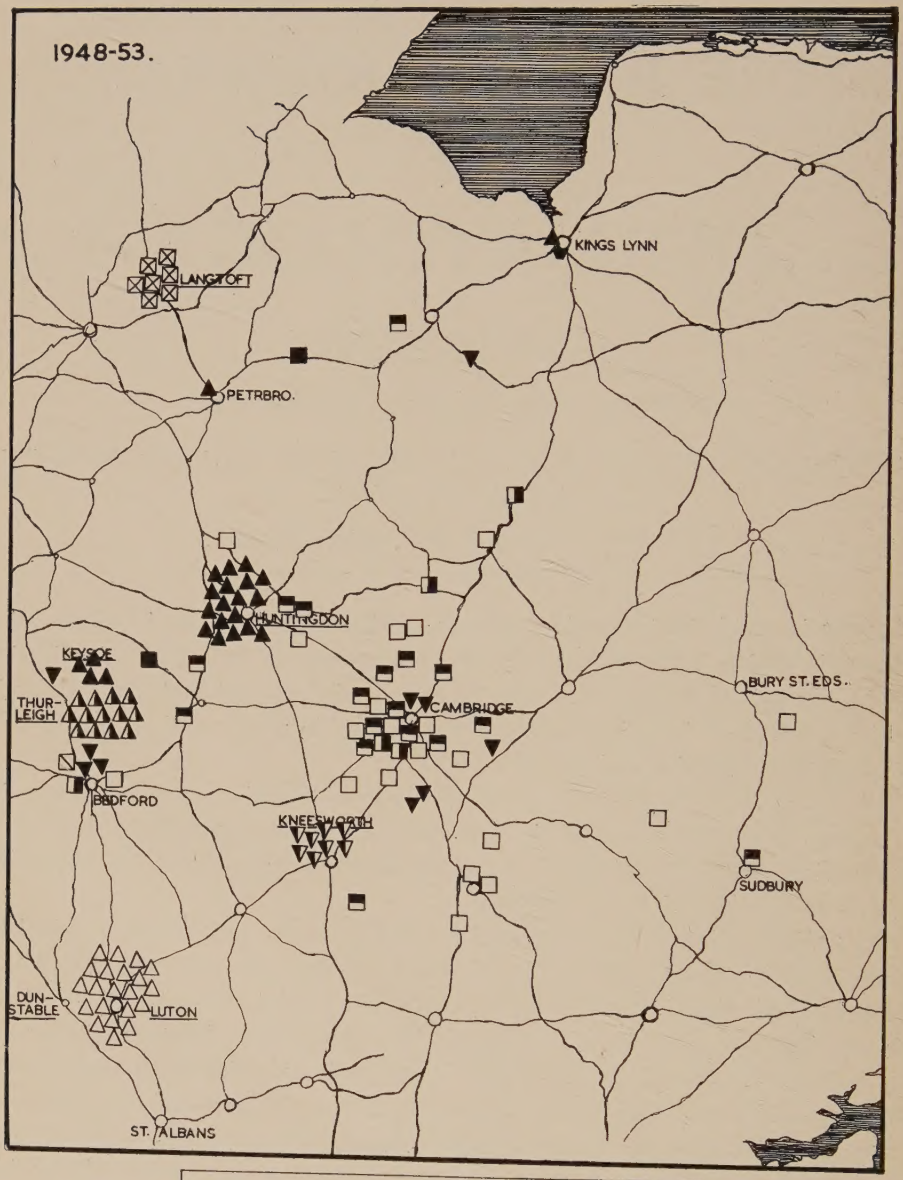
THERE is much that remains obscure in the origin and mode of spread of ungous infection. Its appearance and disappearance, its erratic distribution, nd its changing pattern from year to year, offer fruitful material for funda- ental research. At this stage however something may still be learnt from ne study of epidemics and sporadic cases.

This survey covers routine cases of fungous infection seen in the period 948–1955. The catchment area is indicated on the accompanying maps by the istribution of cases, and involves a population, largely rural but including ne towns, of approximately 860,000.

The period under review is divided into two, because June 1953 marked the xtension of the rural area concerned, chiefly in the north-east and south-east, nd coincided with the advent of a second consultant dermatologist to Cam- ridge. The two periods show a strikingly different incidence of disease, the rst notable for its compact pockets of epidemic infection with truly human arasites, and the second for the complete absence of these and the dominance f sporadic infections of animal origin. Map 1. A rural area implies a large gricultural population and fungous infection *from animals* might be expected o play an important part in occupational disorders of the skin.

No strict numerical comparison can be made between the two periods for everal reasons besides the differences already indicated. Not all " animal " ingworms were cultured in the first period, partly because our attention was argely occupied in combatting the epidemics ; nor were all negative cultures ecorded. Also in the second period, 1953–1955, cases of ringworm were eliberately sought and practitioners in responding to requests for cases would

Map 1


1948-53.
KINGS LYNN
LANGTOFT
PETRBRO.
HUNTINGDON
KEYSOE
THUR-
LEIGH
CAMBRIDGE
BURY ST. EDS.
BEDFORD
KNEESWORTH
SUDBURY
DUN-
STABLE
LUTON
ST. ALBANS
T. DISCOIDES.
T. MENTAGROPHYTES.
T. INTERDIGITALE.
T. RUBRUM.
T. SULPHUREUM.
T. VIOLACEUM.
T. UNSPECIFIED.
M. AUDOUINI.
M. " DYSGONIC.
M. CANIS.
M. GYPSEUM.
M. UNSPECIFIED.
E. FLOCCOSUM.

end up many more than they normally had done in the past. For this eason the later period would give a truer picture of ringworm infection in the rea, though still not complete.

Attention in this paper will be focussed chiefly on the first period, 1948–1953, n which my colleague Dr. A. J. Rook took no part. The period 1953–1955, vhich includes our combined results, is considered in detail by him (Rook, 1955).

The first period shows clearly on the map (Map 1) the occurrence of 6 epidemic outbreaks, 5 of which were diagnosed and treated by myself. Of the Luton-Dunstable epidemic indicated on the map the account and figures were given me by the local Medical Officer of Health ; I saw none of the cases and for his reason have not included them in the chart, or total figures.

Epidemic Infections.

Luton-Dunstable Outbreak of Scalp Ringworm.

There were in the period June 1948–March 1951 at least 40 cases of suspected scalp ringworm, but of these the records are inadequate in 19 ; the remaining 21 shown (Map 1) were either positive by Wood's light or confirmed by a dermatologist. There was no record of culture, so the cases have been shown in white, indicating " microsporon unspecified ". But the run of infection strongly suggests *M. audouini* as the agent, and since March 1951 there has been no further case except one in a child imported from another area.

Huntingdon Outbreak of Scalp Ringworm—M. audouini—(*February–March* 1950).

This involved boys in a residential home (A) and in three schools (B, C, D). Eighteen boys became infected : 11 of them lived in the home (A), of which 4 attended school (B), 6 attended school (C) and one school (D). The " carrier " however who had almost certainly had the infection for *26 weeks* attended school (B). This boy showed a dull blue fluorescence, unlike the usual green. The clinical signs in this case were indefinite and equivocal ; the infection was detected only under Wood's light, making it possible to identify him as the source of the outbreak. The mode of spread was fairly obvious, but it is remarkable that only 18 positive cases resulted from prolonged intermittent contact in class and play with this carrier. The outbreak in school (B) was confined apparently to two mixed classes, but none of the girls were infected. A routine examination of 75 children with Wood's light revealed 10 *undiagnosed cases*, including the carrier. The whole epidemic from first to last case covered a period of 37 days. It is unlikely that after the alerting of all concerned any further case arose and was missed, and the Medical Officer of Health reports that there have been no fresh cases since. Only a few cases were cultured, but the infecting organism was *M. audouini*.

Thurleigh Outbreak of Scalp Ringworm—M. audouini, *Dysgonic Form*—(*May* 1951–*February* 1952).

This outbreak, already reported (Whittle, 1953) involved 13 children—11 boys and 2 girls—out of 54 children in a small village school. All the 54 were examined under Wood's light. The infection had several unusual features. The lesions were small, almost insignificant in scurf and hair loss, slow in development, and healed without x-ray epilation in 9 cases in an average period of 9 months. The earlier cultures were discarded as sterile, but this was because the organism, the dysgonic form of *M. audouini*, grew poorly ; in all the 10 positive cultures the dysgonic form was grown. The fungus grew readily when the media were enriched with optimal amounts of thiamine or pyridoxine (Walker, 1950).

In this outbreak the probable duration of the first case, undiagnosed, was at least two years. The suspicion that this dysgonic variant of *M. audouini* was the result of a well-developed resistance to the fungus—the refractory phase (Kligman, 1952)—in a small closed community, was strengthened by the appearance of a small outbreak of scalp ringworm in the next village, Keysoe, three miles away ; in this fresh community spread was rapid, lesions were usually large and typical, and only the eugonic form of *M. audouini* was obtained.

Keysoe Outbreak of Scalp Ringworm—M. audouini (*Eugonic*)—(*February–March* 1952).

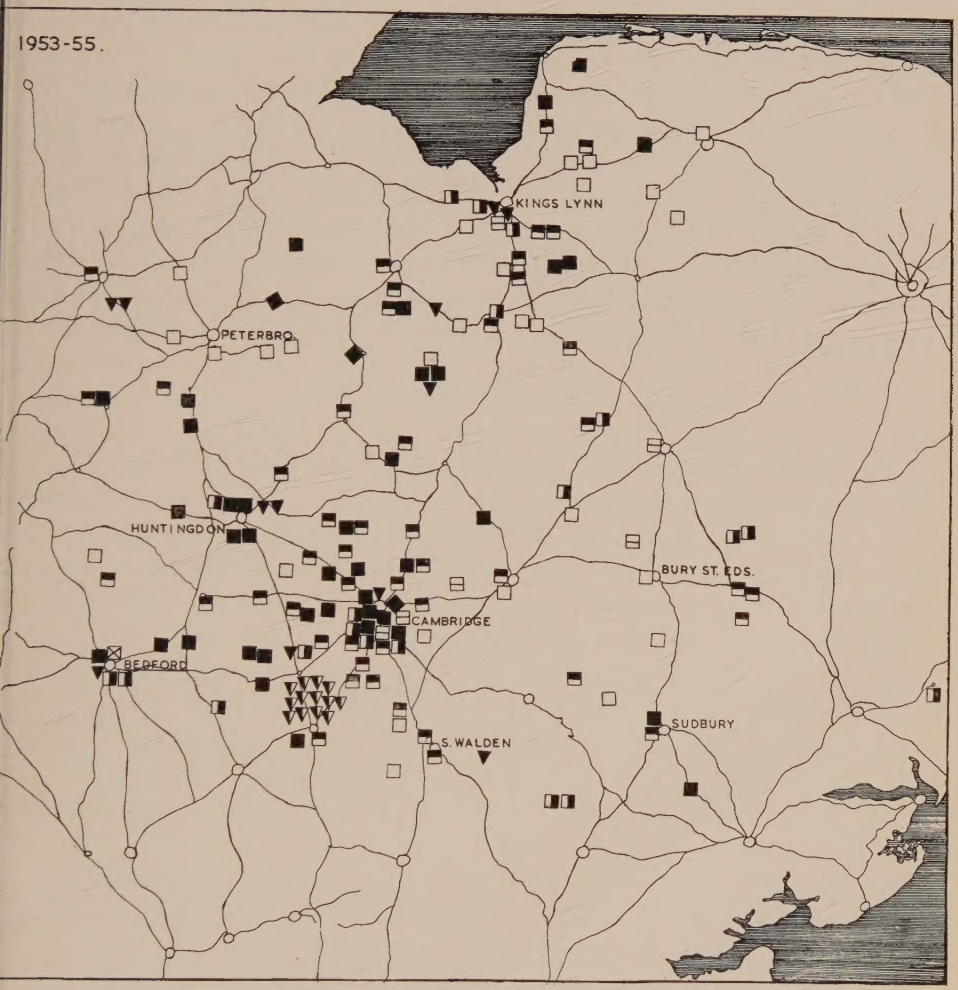
This followed on the tail of the epidemic in the next village described above. Only 4 boys were affected—two pairs of brothers. A bus ran daily between the two villages. In one case the infection had been present in an indolent phase for several months at least, and in this case the lesions were insignificant and unrecognizable in daylight. But typical small-spore scalp ringworm appeared to develop rapidly in the other three. *M. audouini*, the eugonic form, was grown from all four cases.

Langtoft Outbreak of Scalp Ringworm—T. sulphureum—(*November* 1951–*March* 1952).

This outbreak overlapped in time with outbreaks 3 and 4, and at first it was thought they might be connected. Seven children—4 boys, 3 girls—were affected. All lived together or lived near and played together. There were two brothers, a sister and a cousin, and two brothers involved. Their ages varied from 5 to 10. The clinical features were rather insignificant lesions consisting of scurfy ill-defined patches, with few broken hairs but some " black dot" type, very slow course, involvement of the glabrous skin of the neck as

ell as of the scalp, and in all save one absence of fluorescence. In this case uorescence was a doubtful greyish-white, like scurf. Mild circinate scaly rythema occurred on the neck with a tendency to pustulation. Microscopy owed endothrix arthrospores and all 7 cases grew *T. sulphureum*. Three

Map 2



patients got well without x-ray epilation, but only one of these had scalp involvement. One case, a boy of 8, showed a relapse a year later which cleared quickly, but this was again on the hairless skin of the neck. The Medical Officer of Health reports that there have been no cases since.

Kneesworth Outbreak—Tinea circinata in Adults—M. gypseum—(*September–November* 1951, *and March* 1954).

This infection in adults of both sexes working in a plant nursery lasted 8 weeks. It has already been reported (Whittle, 1954), but since the report was published the number of cases has swelled to 21, and 10 positive cultures of *M. gypseum* have been obtained. The lesions occur on exposed skin of workers, who may either infect each other or, perhaps more likely, obtain their infection from the soil (Ajello, 1953 ; Vanbreuseghem and Brussel, 1952 ; Fuentes *et al.*, 1955). Soil cultures have been made, so far without success. Occasional new lesions still appear, but the men and women seldom report them as they clear up rapidly spontaneously or with mild local applications.

Sporadic Infections.

M. canis—*Scalp Ringworm*, 23 *Cases* ; *Tinea Circinata*, 1 *Case.*

Twenty-four cases of ringworm due to *M. canis* were seen in the whole seven-year period, 12 in 1948–1953, and 12 in 1953–1955 (Map 2.) Of these there were 3 siblings in one family affected at the same time, and in 8 other cases the infection was present in 2 members of the same family. The remaining cases were single and sporadic. These results accord well with Carlier's (1954), but, as Cruickshank (1953) remarks, spread from child to child may frequently occur. An infected cat was the probable origin in many cases, but the demonstration of infection in the cat has proved difficult (Mortimer, 1955) and no positive cultures have so far been obtained from animals. The finding of fluorescent microsporum in a cat's claws by La Touche (1952) was noted too late to be of service in this series.

One adult, the mother of a child with scalp ringworm, developed a small patch of *M. canis* scalp ringworm with scurf, broken hairs and some redness, but it cleared quickly with simple local applications.

It is often impossible on clinical grounds to distinguish *M. canis* from *M. audouini* infections. Culture is necessary, if only to eliminate the need for x-ray epilation, which is not required in *M. canis* infection (Thomas, 1953).

T. mentagrophytes *Infection.*

Fifty-eight cases were seen ; 11 in the first period, 47 in the second (Map 2.) The variant *T. interdigitale* is excluded as far as possible, but as before 1953 no distinction was made those cases with tinea pedis giving cultures labelled

mentagrophytes have been excluded. *T. mentagrophytes* infection in this ea is discussed by Rook (1955).

T. mentagrophytes *var.* interdigitale *Infection.*

Eighteen cases were seen, 12 of which have been extracted from the *T. entagrophytes* group as properly belonging in the *interdigitale* group. The sions were intertrigo of the toes and circinate ringworm of the feet.

T. discoides *Infection.*

Of the 43 cases recorded only 4 appeared between 1948–1953. A few positive ltures may have been missed through poor growth or contamination, and me of the 20 " unspecified " may have been *T. discoides* ; nevertheless the gures suggest a true increase in the incidence of *T. discoides* infections in the ast 2 years.

Further details are discussed by Rook.

T. rubrum *Infection.*

Twenty-seven cases are recorded. The lesions have conformed to the now ell recognized pattern, including nail infection, toe intertrigo, circinate ring- orm of limbs and unilateral palmar erythema. Many patients had not been broad. The U.S. Air Force continues to send in a steady trickle of *T. rubrum* nfections.

Other Fungi.

T. violaceum : One case of scalp ringworm in a child, contracted in Palestine.

E. floccosum : Only 3 cases recorded—toe or groin intertrigo.

Trichophyton unspecified : 49. These include cases of animal type ring- orm, many of which showed positive mycelium in potash specimens, with terile cultures.

T. schoenleini : None.

Candida : Many positive cultures, but comment is reserved for a later ate.

M. furfur : Several cases of tinea versicolor. No cultures attempted.

Comments.

The period from 1948 to 1953 which was characterized by epidemic out- reaks of infection with human type parasites has been followed by one singu- arly clear of them. No case of infection with *M. audouini* or *T. sulphureum* as been seen since the last epidemic faded out in March 1952, except the one elapse of *T. sulphureum* infection in a child in the Langtoft area in January

1953. The wave of infection which started during or after the last war has passed. All the Medical Officers of Health in the areas of the epidemics have, after close inquiry, reported complete freedom from infection.

From the speed with which it is possible to stop an epidemic, at least of microsporum ringworm, by school inspection with Wood's light—e.g. 37 days in the Huntingdon epidemic—it seems that spotting the early case, or carrier, is the vital point in prevention. Perhaps more frequent inspection of school-childrens' heads under Wood's light is a routine measure worth considering. About 30 children can be inspected in an hour without undue hurry and the result is unequivocal : in two of the epidemics described a child was found with only *one* infected hair, and at least 13 cases were undiagnosed by daylight inspection.

It is tempting to speculate on what happened in the Thurleigh epidemic, because here in this relatively closed community the dysgonic strain ran true throughout. It may be that these indolent, atypical lesions were really the third, or refractory, phase as noted by Kligman (1952) in his experimental ringworm, in an infection probably present for months. It gradually merged into the fourth phase—spontaneous resolution. Was the strain dysgonic because it was losing its grip on life ? And did it at point of death reach the next village three miles away only just in time, to find there a fresh community where it could regain its vigour, produce the usual type of scalp ringworm, and grow happily on ordinary media without further need of extra vitamins ? Another feature of waning vitality is diminishing fluorescence (Beare, 1954 ; Beare and Walker, 1955), and it was one often observed here. The same bluish-white fluorescence seen in the " carrier " with 26 weeks' infection was noted in the cases resolving spontaneously in the Thurleigh epidemic. In fact it was often impossible to say from one week to another when fluorescence had ceased, though it was still possible to grow the fungus from hair stumps.

Adult infection with microspora is infrequent. Two women attending the boys in the Huntingdon outbreak developed tinea circinata on the open skin. The case of *M. canis* infection of the scalp in a woman has already been mentioned. It is the only case of microsporum scalp ringworm in an adult that the writer has seen.

The lull in the incidence of *M. audouini* scalp ringworm is not peculiar to Cambridge (Carlier, 1954). In America the gradual disappearance of *M. audouini* has been accompanied by a steady advance northwards from Mexico of *T. tonsurans* (*T. sulphureum* and *T. crateriforme*). In Mexico it is the commonest producer of scalp ringworm (Georg, 1952 ; Howell, Wilson and Caro, 1952 ; Reiss, 1954) and it can infect adult scalps (Pipkin, 1952). Sulzqerger and Baer (1955) remark on the likelihood of epidemic spread of *tonsurans*

the northern and eastern states of the U.S.A. In New Zealand it has been ported as a cause of tinea capitis in 9 cases (Fox and Rush-Munro, 1953). earer home, in Northern Ireland, this fungus is already established as a mmon agent in scalp ringworm and has replaced *M. audouini* (Beare, 1954). may not be long before we in this country have to face epidemic outbreaks *T. sulphureum*. The indolent, often insignificant, slowly spreading lesions d the fact that fluorescence is indifferent or absent, make diagnosis and ntrol of cases difficult.

E. floccosum is rare and has been recovered from only 3 cases. This low cidence agrees with Carlier's low incidence, namely only 14 out of 1020 sitive cultures.

The " animal ringworms " are discussed by Rook (1955). Although most ses appear to arise from the direct contact of man with an infected animal with intermediate objects, infection may take place from man to man. 4 cases *T. discoides* infection appeared to spread from the father, a farm rker, direct to his young child.

The development of kerion seems to depend on two factors, namely the fection of deep follicles and sufficient time for the fungus to invade the pths. Thus in the hair margin on a child's forehead tinea circinata becomes rionic only in the hair follicles, and only after a delay of a week or ten days llowing invasion of the scalp. The change from scaly erythema to heaped stulation may, however, be fairly rapid, even sudden, and is occasionally en in tinea barbae.

Summary.

A survey of fungous infection in the Cambridge area over a seven-year riod falls naturally into two unequal parts. The first, 1948–1953, was an a of epidemics. Scalp ringworm occurred in four apparently unconnected tbreaks in 1950–51–52. In two *M. audouini*, and in one the dysgonic rm of *M. audouini*, were responsible. The fourth was produced by *T. lphureum*. Since then only one case of scalp infection with either of the man parasites has been seen—a sporadic case of *T. sulphureum* infection. he prevalence of this fungus in other parts of the world has been noted.

M. canis scalp ringworm, most of it probably originating from cats, has peared in sporadic fashion throughout the seven years.

The second period, 1953–1955, has been characterized by an apparent rise the incidence of the animal ringworms for which *T. mentagrophytes* and *discoides* are responsible. *T. discoides* infections show the greatest increase. *M. gypseum* has produced two small epidemic outbreaks in one community, d several fresh cases are still arising.

I wish to thank my successive registrars, Drs. A. Lyell, R. Church, J. L. Moffatt and R. Davis, who helped me take cultures direct from the lesions. But without Dr. Jacqueline Walker's constant advice and confirmation in identifying them the work could not have been carried out : to her I owe a great debt of gratitude.

I should also like to thank the Medical Officers of Health of Bedfordshire and Huntingdonshire, and the Deputy County Medical Officer of Health of Parts of Kesteven, Lincolnshire, for their generous help and co-operation.

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ANIMAL RINGWORM.
TRICHOPHYTON DISCOIDES AND MENTAGROPHYTES INFECTIONS IN THE CAMBRIDGE AREA.

ARTHUR ROOK.
Addenbrooke's Hospital, Cambridge.

During the two-year period from 1 June 1953 to 31 May 1955, 105 cases of flammatory or pustular ringworm, excluding infections of the feet, were amined in the Cambridge area at hospital out-patient clinics or in private nsulting practice. Positive cultures were obtained in 77 cases, of which 40 ve *Trichophyton discoides* and 37 *Trichophyton mentagrophytes*. On analysis the case-records of these 77 patients interesting and apparently significant fferences between these infections have emerged and are here briefly reported.

Month of Onset.

	Jan.	Feb.	March	April	May	June
discoides :	10	4	3	2	3	1
mentagrophytes :	2	3	2	5	5	4

	July	Aug.	Sept.	Oct.	Nov.	Dec.
discoides :	1	0	1	4	3	8
mentagrophytes:	0	1	3	2	7	3

Eighty per cent. of infections with *T. discoides* began during the six winter onths, October to March, and new infections during the summer were rather ıcommon. *Trichophyton mentagrophytes* infections were more evenly distributed roughout the year ; 51·3% of infections began during the winter.

Age and Sex Incidence.

	0–5 M. F.	6–10 M. F.	11–15 M. F.	16–20 M. F.	21–30 M. F.
discoides :	4 0	4 0	4 1	2 2	9 4
mentagrophytes :	5 0	8 3	2 0	1 1	1 1

	31–40 M. F.	41–50 M. F.	51–60 M. F.	61–70 M. F.
discoides :	6 0	1 0	2 0	1 0
mentagrophytes :	5 3	4 0	2 0	1 0

Trichophyton discoides infections showed their highest incidence during the rst twenty years of working life, were frequent in childhood but were relatively ıcommon over the age of 40. *T. mentagrophytes* infections were more evenly ıstributed after the age of puberty, but nearly 50% were in children aged 15

and under. Males were more commonly affected than females at all ages and with both parasites.

Source of Infection.

Our cases were classified in five groups : (i) Direct contact with cattle known to be infected. (ii) Mediate contact with infected cattle, i.e. contact with an infected individual or with agricultural equipment from infected farms. (iii) Direct contact with cattle not infected or not known to be infected. (iv) Possible contact with cattle, i.e. living on or visiting farms where cattle are kept. (v) No known contact with cattle.

Group.	(i)	(ii)	(iii)	(iv)	(v)
T. discoides :	27	6	0	4	3
T. mentagrophytes	10	0	8	11	8

Thirty-three of the *T. discoides* cases had been in direct or mediate contact with infected cattle and in only 3 was the patient unaware of any possible contact with cattle. In contrast only 10 of the *T. mentagrophytes* cases had been in direct or indirect contact with infected cattle and in 8 there was no obvious source of contact with cattle. Most workers on small farms are in daily contact with a variety of domestic animals and the investigation of possible non-bovine sources of infection is difficult. However, one patient with *T. mentagrophytes* infection of the right hand was a rat-catcher, and another, who also gave no history of contact with cattle, had recently been spending many evenings shooting rabbits ; another was a stable lad ; another was an engineering student in direct contact with an infected horse. Many children with *T. mentagrophytes* infections had been playing in fields or woods.

Clinical Features.

Site of lesions.

	Scalp.	Face, neck, beard.	Hands and arms.	Legs.	Trunk.
T. discoides :	1	20	12	5	4
T. mentagrophytes :	11	10	12	4	2

(More than 1 site involved in 4 cases.)

Type of lesion.

	Tinea circinata.	Agminate folliculitis and pustular sycosis.	Kerion.
T. discoides	14	15	9
T. mentagrophytes	9	10	18

Both infections involved predominantly the exposed sites. Of twelve cases in which the scalp was involved 11 were caused by *T. mentagrophytes* and all were in children under puberty. Infections of the beard area, sometimes kerions but frequently pustular sycosis, were a characteristic lesion in young men. Infections with both parasites tended to become increasingly inflammatory, evolving from tinea circinata to agminate folliculitis or kerion. Such cases have been classified here according to their most active stage. The transition to a pustular reaction often took place very suddenly, sometimes when the lesions were apparently healing, after an interval which varied from two or three days to over three weeks from the first appearance of the lesion. Tinea circinata, sometimes very extensive, healing without clinically significant pustulation was seen in 14 cases of *T. discoides* infection and 9 cases of *T. mentagrophytes* infection ; 8 of the former and 4 of the latter were in children aged 15 or under. The two least inflammatory lesions observed were both *T. mentagrophytes* infections occurring on the hands of adults, but the only 3 cases in which the inflammatory reaction was intensely severe and was accompanied by fever and constitutional symptoms were extensive kerions of the scalp in children and were also caused by this fungus.

Three of the infections with *T. discoides* presented unusual features. An inseminator aged 37 whose work involved inserting the ungloved left hand and arm into the cow's rectum developed a dozen or more small discrete oedematous papules on the extensor surface of the forearm. Four days later the papules were larger and flatter and showed superficial scaling. Three days later they were still larger and were studded with follicular pustules. In another case a cattle-dealer aged 27 attended hospital with a ring of raised erythema, 3 cm. in diameter, on the front of the neck, exactly simulating erythema annulare. Within a week a kerion had developed on this site. The third case was our only example of Majocchi's granuloma. The patient was a herdsman aged 22.

Conclusions and Comment.

The incidence of human infections with *Trichophyton discoides* and *T. mentagrophytes* in the Cambridge area is approximately equal. Walker's (1950) figures based on material obtained from many parts of the British Isles were similar, but Beare and Cheeseman's (1953) findings in Northern Ireland suggest that there may be considerable regional variation in the relative incidence of the two infections. Our general survey (Whittle, 1955) suggests that the relative incidence of the infections in any area may also change significantly over quite short periods.

T. discoides infection in the Cambridge area is usually and possibly always contracted from cattle ; 82·5% of our cases were in direct or indirect contact with cattle known to be infected and the seasonal incidence coincided with the

peak incidence of the infection in calves. According to Georg (1954) this species can occasionally infect the horse, sheep, dog, donkey and goat, but both in Britain (Walker, 1950 ; Partridge, 1952 ; Beare and Cheeseman, 1953) and in the United States (Fowle and Georg, 1947 ; Birt and Wilt, 1954) the majority of human infections are derived from cattle.

Although only 27% of our patients with *T. mentagrophytes* infection had been in contact with cattle known to be infected, the evidence that this was in fact the source of their infection was sometimes so strong as to be indisputable. The relative incidence and regional distribution of the two infections in herds are not known, but cattle infected with this fungus have been reported in Britain (Muende and Webb, 1937) and in the United States, and it is the commonest cause of cattle infections in some parts of Europe, particularly in the south and west (Gaté *et al.*, 1947). Unlike the *T. discoides* infections our cases showed no definite seasonal incidence. In some, circumstantial evidence tended to incriminate other animals, horses, rats and rabbits. Georg (1954) lists a wide variety of animal hosts. Villanova and Casanovas (1951) traced this infection to domestic rabbits, and Fuentes and Aboulafia (1955) have recently isolated the organism from laboratory guinea-pigs clinically free from infection. Our findings lend support to the opinion that this organism is very widely distributed. Perhaps, as Vanbreuseghem and van Brussel (1952) suggest, the soil acts as a reservoir of infection in which many dermatophytes live until the opportunity arises for the parasitization of animals or man.

The relatively high incidence of both infections in children suggests a greater susceptibility. The chances of direct contact with infected cattle are less than those of adults, yet 32·5% of the patients with *T. discoides* infections were aged 15 or under. A similar age incidence has been noted in other series of cases (Gaté *et al.*, 1947 ; Beare and Cheeseman, 1953 ; Rook and Frain-Bell, 1954). The high incidence of *T. discoides* infections in the early years of working life is no doubt related to increased exposure, but the lack of cases in the higher age groups is apparently not due to any greater tendency on the part of the older worker to disregard the infection or to treat it without seeking medical advice. Rural practitioners and farmers consider the infection to be less common in the older man, although he is no less exposed to infection. It is possible that one attack confers partial or complete immunity. Certainly second attacks are uncommon, and we have not encountered a single example of a second attack when the first has been kerionic or markedly pustular. There is no obvious explanation for the apparently greater susceptibility of boys than girls.

Our figures do not support the opinion expressed by several authorities that *T. discoides* infections are more inflammatory and more often accompanied by constitutional symptoms than *T. mentagrophytes* infections. The degree of

flammatory response was not related to the species of fungus but depended rgely on the age of the patient and the site affected. The scalp was involved ily in children (noted also by Coudert and Doucet, 1950) and the lesions were ways kerionic. In other sites, irrespective of the species of fungus, the lesions ere usually less inflammatory in children than in adults, and some children id adolescents developed very extensive lesions of tinea circinata type without ustulation. In adults lesions on the beard were usually more inflammatory an those on glabrous skin. At all ages trauma preceding the onset of the fection and over-treatment in its earlier stages increased the inflammatory action. It was not possible to distinguish the two infections on clinical ounds alone. Neither the severity, nor the duration, nor the degree of scarring rovided a reliable criterion.

Summary.

During a two-year period 40 infections with *T. discoides* and 37 infections ith *T. mentagrophytes* were encountered in the Cambridge area.

T. discoides infections were most prevalent in the winter months but *T. entagrophytes* infections showed no seasonal incidence.

T. discoides infections were usually contracted from cattle ; in *T. menta-ophytes* infections various animal hosts were suspected, but the source was ften difficult to trace.

Both infections were common in children under puberty ; males were more ften affected than females at all ages. *T. discoides* occurred particularly during ie first 20 years of working life and was uncommon over the age of 40 ; the ge incidence of *T. mentagrophytes* infections after puberty was more evenly istributed.

There were no significant and constant clinical differences between the two fections.

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PURPURA RHEUMATICA: ALLERGIC CUTANEOUS ARTERIOLITIS. A TYPE OF

M. RUITER.

Groningen, The Netherlands.

In preceding articles an attempt has been made to group together a number of cutaneous eruptions, which I believe constitute a clinical and histopathological entity, and in which an allergic pathogenesis can be assumed or at least seems attractive. The clinical manifestations are variable and a delineation of a limited number of morphological elements more or less regularly occurring in this group of eruptions seemed preferable to a systematic catalogue of cutaneous syndromes. At the same time the other clinical features and in particular the conspicious histopathological changes in the cutaneous blood vessels were brought to the fore as equally valuable criteria. In our opinion the syndrome known as purpura rheumatica may also be classed in this group, which has previously been described under the term "allergic cutaneous arteriolitis".

Rheumatic purpura is, on the whole, dealt with rather perfunctorily in the medical literature, perhaps because it belongs as much to the field of dermatology as to that of internal medicine. In this paper special attention will be paid to the skin picture of purpura rheumatica, but at the same time some other aspects of the syndrome will be brought forward, which it shares with other types of allergic cutaneous arteriolitis.

Case Reports.

Case 1.—A man aged 55.

His eruption dates from April 1950 and was said to have started, following an attack of "influenza", with abdominal pain which lasted some time. Shortly afterwards the patient had pains in the joints. He himself noticed numerous spots, originally on the legs, but later on also on the arms and hands. They came and disappeared and the arthritic manifestations flared up. The man also complained of palpitation. During the course of his illness he had suffered from pleurisy of unknown origin and on one occasion keratitis was seen during an exacerbation. The family doctor had found abnormalities in the urine.

In June 1953 he was admitted to hospital and during this period the course of the disease with remissions and exacerbations was apparent. Skin lesions were found especially on the extremities, more particularly on the lower legs. They were numerous about the joints. Similar elements were present also in the gluteal furrow and on the palmar surfaces of the fingers. As usual in intermittent skin eruptions, various stages of development could be observed simultaneously. The youngest elements consisted of round pale-red to red oedematous patches 5–15 mm. in diameter. In the centre minute haemorrhagic spots occurred. During the later

urse of the disease the central haemorrhages became confluent and the inflam-
atory symptoms of the lesion decreased, until only the haemorrhagic part remained.
nong these lesions, smaller and larger greyish-brown pigmented patches were
und. The mucous membranes showed no abnormalities.
The ankles, knees and wrists were markedly swollen and very painful.
General examination (where relevant).—Blood count normal. B.P. 140/90.
SR 41–71. Bleeding time and clotting time: normal. Platelets: 300,000.
umpel-Leede test: clearly positive. Capillary resistance (measured by a capillary
sistance meter): distinctly reduced. Gamma globulin of the serum (Majoor):
arkedly increased. L.E. phenomenon repeatedly negative.
Urine: albumen +: some erythrocytes and casts. Renal function slightly
sturbed.
Serological reactions against streptococci: normal. No foci of infection were
und.
Histology of an early lesion showed alterations mainly in the stratum subpapillare.
ese were almost entirely confined to the small blood vessels in this area. The walls
the affected vessels were markedly thickened by inflammation and fibrinoid
ecrosis: there was narrowing of the lumina and swelling of the endothelial cells.
ne necrotic vascular walls and the surrounding areas were infiltrated by numerous
flammatory cells, mainly polynuclear leucocytes and some eosinophils, a consider-
ble number of the former showing nuclear disintegration. In addition occasional
roblasts and some histiocytes were observed. Micro-organisms could not be
emonstrated in the sections.
Course.—A diagnosis of purpura rheumatica was made. The disorder failed to
spond to any treatment until ACTH was used. From then onward there was
markable improvement. The skin eruption and the severe arthritic manifestations
ceded promptly and, in a short time, normal values were found for blood sedimenta-
on, capillary resistance and serum proteins. A maintenance dose proved, however,
be necessary. Treatment did not influence the renal condition.

The skin eruption in this patient was characterized by its intermittent
ourse in which exacerbations were associated with swelling of the joints.
he rash originally consisted of pink to red oedematous patches and purpuric
anifestations later developed on the basis of these macular elements. Thus
ne haemorrhages in this type of purpura should be considered a secondary
hange. This differentiates purpura rheumatica from thrombocytopenic
urpura, in which inflammatory symptoms are absent.

In purpura rheumatica an allergic pathogenesis is accepted by many authors,
nd this prompted a search for such evidence in our patient. The histo-
gical picture in some degree supported the opinion that an allergic process
ight come into play. Fibrinoid necrosis, endothelial swelling, eosinophilia
nd leucoclasia, which in our case were confined to the blood vessels, have
epeatedly been described in allergic tissue reactions; they may be used as
rguments in support of such a supposition, though they cannot be regarded
s pathognomonic. Apart from the histological picture, some other aspects
f our case might also favour an allergic pathogenesis: the course of the
ffection indicating a haematogenous eruption, the "allergic temperament"
f the skin lesions, the marked increase of gamma globulin and the favourable

reaction to ACTH. On the other hand, no allergen could be demonstrated, so that at least this important argument in favour of an allergic pathogenesis was lacking. The allergic pathogenesis in this case may, therefore, in our opinion, not be accepted without hesitation. The attack of "influenza" preceding the skin manifestations might suggest the possibility of infectious allergy, but sufficient proof of this supposition could not be established.

It is interesting that in the following cases—which bore a close resemblance to Case 1—an allergic pathogenesis could be reasonably accepted.

Case 2.—A woman aged 55.

The patient noticed numerous red patches on the skin for the first time in August 1953. At the same time the joints became swollen and painful, especially those of the hand. The patient felt tired and complained of headache. These symptoms had recurred ever since at shorter or longer intervals. On inquiry she said she had taken Soneryl occasionally for some months. The patient's father had suffered from hay fever and a son was often troubled with urticaria.

The skin lesions were closely similar to those in Case 1. The eruption was mainly on the extremities, especially on the lower legs, and some scattered elements were found also on the body. Besides red, often oedematous swollen macules, in the middle of which marked petechiae were frequently found, numerous purpuric spots and pigmented patches were seen. The elbows and knees and also the smaller joints, especially those of the hands, were painful and swollen.

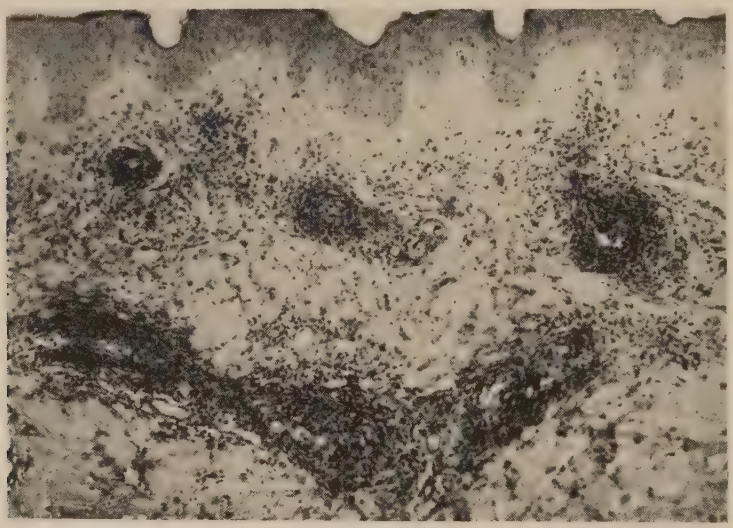

Fig. 1.

The ESR was increased to 30 mm. per hour. The Rumpel-Leede test was positive. Capillary resistance measured by a resistometer was clearly lowered. The bleeding time was slightly increased and the clotting time was normal. The thrombocyte count was 422,500. Serological reactions against streptococci showed no abnormality. The urine was normal.

The histological picture was essentially the same as that of the first patient. Lesions were found mainly in the small vessels (primarily the arterioles) of the stratum sub-

)illare, though slightly larger vessels lower down in the corium were likewise ected (Fig. 1). The walls of the affected vessels showed fibrinoid necrosis com- ed with a severe vascular and perivascular inflammatory reaction. The infiltrate nsisted mainly of leucocytes among which were also some eosinophils. The jority of these leucocytes showed marked disintegration of the nuclei. In the lammatory zone were also seen mononuclear cells and histiocytes.

While she was in hospital the cutaneous symptoms and joint complaints slowly gressed. A test dose of Soneryl produced numerous new lesions and slight swelling the joints. Within a half-hour this drug also caused a temporary reduction of % in the thrombocyte count, which returned to normal after 1½ hours.

The syndrome manifested in this patient, who, moreover, had a marked ergic family history, which is not rare in such patients, must also be con- dered as an example of purpura rheumatica in this case due to drug allergy oneryl). The arguments brought forward as favouring an allergic patho- nesis in Case 1 are also applicable in Case 2 and have an added significance ce the allergen could be demonstrated. The patient does not take the pnotic any longer and remains entirely well.

Case 3.—A girl aged 17.

The patient suffered from a sore throat six weeks before she was examined by us. ur weeks after the beginning of the throat infection her knees became painful d swollen and a slightly itching eruption appeared on the arms and legs. It con- ted of round reddish macules, and was originally mistaken for "nettle rash". e eruption recurred a few times.

On examination she did not look ill and the joints were no longer swollen or painful. e skin, however, showed an eruption consisting of pale-red to yellowish-red macules, ecially dense on the legs and nates and also present on the flanks and forearms. me of these lesions were slightly oedematous, and most showed small haemorrhages the centre. The ESR was 17 mm. per hour. Gamma globulin (paper electro- oresis) was markedly increased, amounting to 21·8% of the total serum protein. lture of a throat swab showed a dense growth of pyogenic streptococci. The tistreptolysin titre was 700 and after intervals of one month 800 and 500 units. The histological picture showed marked lesions of the small vessels of the upper ers of the corium identical with those found in the other two patients. Micro- ganisms could not be demonstrated in the sections.

In this patient also the diagnosis of purpura rheumatica was made. Some the arguments in favour of an allergic pathogenesis have been mentioned the description of Case 1. Moreover, in Case 3 there was a clue to the lergen concerned. The culture of the throat (pyogenic streptococci) and the arked increase of the antistreptolysin titre of the blood, which after the iginal rise later showed marked fall, make it probable that streptococci ovided the allergen.

Discussion.

The primary cutaneous changes in purpura rheumatica consist of slightly dematous, red, inflammatory patches. From the histological changes,

showing severe lesions mainly of the cutaneous blood vessels, it is evident that inflammation is of importance in producing the erythrodiapedesis. The small vessels of the papillary layer appear to be particularly affected, but arterioles lower down in the corium also were involved. However, in the genesis of the intracutaneous haemorrhages other factors also have probably to be taken into consideration. After administration of antigen in so-called vascular purpura—among which purpura rheumatica should be classed—a temporary increase of the heparin content of the blood has been observed together with a temporary reduction of the platelet count (Storck, 1951). Thus, in Case 2, a marked reduction of the thrombocyte count occurred after administration of the causative drug. It rapidly returned to normal.

I believe that purpura rheumatica must be classed among a *group* of related syndromes previous described under the name " allergic cutaneous arteriolitis " (Ruiter, 1954*a*). In this concept the nature of the skin lesions, the clinical features of the syndromes and the histopathological findings were given equal weight in classifying the eruptions. Apart from the fact that such a classification might be of diagnostic value and might contribute moreover to a better knowledge of these syndromes (Ruiter, 1954*b*), one of the reasons that lead to this concept was the varying character of the skin picture and the polymorphism which often occurred. The uniformity of the clinical picture in the patients here described may seem unusual at first sight. However, in purpura rheumatica, cases have been described in which the cutaneous lesions are more polymorphous and in addition to the typical lesions, vesicles, pustules and erythemata may occur simultaneously. These cases seem to form a link with a number of other relatively little-known eruptions also belonging to the arteriolitis group (Ruiter 1952; 1953).

Finally, the pathogenesis of rheumatic purpura in the patients described above may be mentioned. In two of the cases (the second and third) an allergic cause might be accepted ; in Case 1 this possibility may be considered, but the proof is not complete.

Similar considerations apply to other types of allergic cutaneous arteriolitis. We know from experience that an allergic pathogenesis may be assumed in the majority of these cases, but in others it cannot satisfactorily be proved. Further, the underlying mechanisms of the cutaneous reactions in this group are not yet entirely clear. In some types the Shwarztman-Sanarelli phenomenon may be involved, but the histological changes do not seem to support this. The mechanism of infectious allergy is complicated and it is possible that a Shwarztman phenomenon produced by endotoxins may occur simultaneously with a specific sensitization to the protein fractions of the micro-organisms.

However, we are of opinion that the term "allergic" originally chosen for e denomination of this group may be maintained for the time being, since most cases an allergic origin seems to be the most acceptable explanation. oreover, this term draws attention to the "allergic temperament" of the taneous lesions, which is of importance in clinical diagnosis. At the same ne it will probably induce the physician to look for a possible allergic pathonesis more assiduously than might otherwise be the case.

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THE THREE-DIMENSIONAL DIAGNOSIS OF SKIN DISEASE.

J. H. TWISTON DAVIES.

Physician, Manchester and Salford Hospital for Skin Diseases.

It is generally supposed that diagnosis serves three main purposes. In certain specific diseases it is a guide to the treatment of the individual case. The identification of a particular kind of complaint with a name or label enables the subject to be discussed among experts without laborious introductory definitions. A correct use of such labels makes possible the collection of statistics capable of indicating to authority what the public needs for it to be kept in good health; and to future generations the changing face of nosology. The disadvantages of trying to classify cases according to an official list of diseases will be well known to those who have served in the armed forces.

Unfortunately only a very small proportion of individual patients with skin diseases can benefit materially from diagnosis. The infestations and the specific granulomas—all of them nowadays infrequent—certain neoplasms, dermatitis produced by a hitherto undetected external irritant, and a few cases of lupus erythematosus and of dermatitis herpetiformis almost complete the list. Diagnosis in the commonly accepted sense of giving the disease its name is not very important in the treatment of the patient. Twenty-five per cent. of our patients are suffering from eczema or dermatitis—whatever one chooses to call it—but every single one of them needs different handling, and exactly what treatment he is going to receive will depend much more on whom he consults than on the name of his disease Few will deny that the same applies even to such well defined ailments as psoriasis, acne, alopecia areata and warts.

In order to avoid misunderstanding I will say here and now that I have nothing against the diagnostic labels that we must all use. Possibly simple descriptive terms like "alopecia areata" or, for the sake of adherence to an original description in more complicated syndromes, eponyms are to be preferred to names like "infective dermatitis" and "keratoderma climactericum" which so often turn out to be wrong. But these diagnostic labels are useful and the time we give to arguing about them is by no means wasted. There are already a great many of them, but I would myself say the more the better so long as they serve to encourage original work in description and to avoid its unnecessary repetition. It is, as will be shown, the easiest thing in the world to escape all the possible disadvantages of multiplying the names of diseases. To show how to make the knowledge we derive from experience of our routine work

nprehensible and useful to the statesman of to-day and the historian of morrow is one of the main purposes of this paper.

Since the other two dimensions of diagnosis may not be familiar to the reader will perhaps be better to consider them and their implications before explaining the reasons for the nosological classification that goes with them. There three main factors in every illness in which we are professionally concerned: ey are in order of importance the patient, the doctor, and the disease. These tors manifest themselves clinically as (i) the nature of the complaint, mptom or disability on the part of the patient, (ii) the kind of help we can er and (iii) the biological status of the disease.

There are four main reasons why a patient may consult the dermatologist: He or his friends may consider that he is disfigured; a complaint involving metimes merely an attitude of mind and at others of course a realistic view. r example, there may be a horribly disfiguring hairy mole, there may be an sily removable growth, there may be some insignificant spot about which the tient shows the greatest concern, or there may simply be a rash, e.g. pityriasis sea, which is causing no other symptom. (ii) He may suffer more or less comfort from itching, pain or the presence of discharges. (iii) He may be evented, or think he is prevented, from enjoying his golf by a plantar wart, disabled for work or household chores by alleged occupational dermatitis.) He may fear, or his doctor may fear, that his life is threatened by something at has manifested itself in the skin. The principle of a single qualifying sign is of course applicable to these categories. For instance, we can use it to dicate that the disfigurement was a permanent and substantial one—[f] stead of f. An extensive impetigo would give trouble by weeping or sticking the pillow and thus become c instead of f. Bracketing a [c] would imply that e patient was uncomfortable enough to justify admission to hospital. [a] ould imply a weeping eczema of both hands rather than mere konhygratmonobia, and while l would be used to distinguish a small squamous epithelioma om a wart of the same size the qualifying bracket would usually be reserved r some real threat to life.

For the dermatologist there are twelve possibilities falling into four groups:

I. He may be dealing with the sort of case that calls for some dermatological nowledge or that promises scientific interest.

1. The case may be of the type shown at dermatological clinical meetings whether "typical" or "for diagnosis". Or it may, without being sufficiently rare, spectacular, or incurable for this purpose, illustrate some peculiarity of scientific interest.

2. It may require investigation involving consideration of internal medicine, general pathology, or other specialties not being psychiatric, or

the patient may need material help from the almoner or the ministrations of priest, faith healer, lay hypnotist, etc.

3. It may require further dermatological study, biopsy, mycology, patch-testing, or even just history-taking. That is to say, the ordinary case of " not yet diagnosed ".

II. The condition may be one easily recognized as

4. Something transitory or self-limiting like pityriasis rosea or annular impetigo.

5. Something, e.g. ringworm or certain cases of discoid eczema, that we can appear to cure or improve by treatment that is rather more than a mere placebo.

6. Something that we can cure by positive means, e.g. a wart, operable or radiosensitive neoplasm, scalp ringworm, syphilis.

III. Our patient is going to do us little credit however hard we try. That is to say

7. He may have such intellectual defect, either by nature or from senility, lack of education or sheer unco-operative obstinacy, that although his lesion is essentially reversible or even non-existent we can do nothing but give him a bottle of lotion and get rid of him as quickly as we can. He may even not want advice at all—merely a certificate or a wig.

8. He may have become indoctrinated in the dermatitis myth and, even though superficially friendly and co-operative, he may thereby be unable to overcome his hostility to our advice.

9. He may have some incurable though benign malady, such as eczema, psoriasis, acne, or alopecia areata, but is unable to accept the situation and can only be satisfied by the offer of treatment that we know to be quite useless.

Of course we always go on trying in these cases and sometimes the patient gets better and even thanks us for our pains. But since we cannot discern the effect of our intervention we just marvel and are content.

IV. On the other hand, although his malady is essentially one of the emotions, we can help the patient :

10. By our own reassurance and advice, e.g. not to treat his child for psoriasis, to take more rest and recreation or to try to ignore that with which we cannot help him very much ; or we refer him to almoner or social worker for advice as opposed to " benefits " [see (2)].

11. By sending him to the psychiatrist for relief of some obvious disorder of feeling which is either in part the cause of his illness or is rendering it intolerable.

12. By recognising as psychosomatic and possibly susceptible to psychiatric guidance what others might suppose to be due to lack of sufficient lotion and ointment.

Here again we can if we wish bracket 1 to indicate that it is a good case for emonstration at a clinical meeting; 2 that it is a primarily non-dermatogical curiosity, e.g. senile warts in a pituitary giant; 3 that there was a opsy performed in this particular case; 5 and 6 that we used some medy or form of treatment in which we were particularly interested. A bracket und 8 might indicate that a workman had been sent to the hospital by the inister of National Insurance wishing to know if it was probable that the aimant's skin would be less resistant, how long such lessening of resistance ould be likely to last, and what limitation it might impose on his activities. 1 the case of 11 and 12 we might wish to indicate that we would have sent ie patient to the psychiatrist but that there was not one available.

Thus we have four types of complaint: **a** (disability) **c** (discomfort) **f** lisfigurement) and **l** (threatened loss of life); and twelve reactions on the art of the physician ranging from repudiation to an almost proprietorial terest. And thereupon diagnosis in the commonly accepted sense, though ossibly essential as a preliminary, recedes from the importance which is often uite absurdly given to it.

There are all sorts of applications. Only, for instance, by this classification un we assess the dermatological health, the standards of general practice in the eighbourhood served by the clinic, or the value, in clinical interest, of an ppointment.

In his book *Our National Ill Health Service* Dudley (1954), misled no doubt y political propaganda, writes: " Before the inception of the National Health ervice, doctors were not distributed in space according to the needs of the eople for medical aid. . . . The poor, living in overcrowded unhealthy lums—as, say, the industrial Midlands—had fewer but needed more doctors han the inhabitants of rich spacious residential areas such as Mayfair or Bournemouth . . . " and he quotes the saying of Kaiser, the American ndustrialist, " Doctors go where there is dough " in support of his views. Only 3-D Diagnosis " could refute this slur on our profession and demonstrate that octors, on the contrary, are more interested to be where there is a real job of ork for them to do. Although the list of diseases and the numbers of sick ight be exactly the same, it is probably true that while nobody in Bolton eels really fit there are few with appreciable diseases, whereas in Bournemouth here may be a more widespread feeling of well-being but a greater number of ough diagnostic and therapeutic problems.

It will be obvious, for instance, that if the picture is overloaded with **f** especially when qualified by numbers 6 and 9 we are not going to have much fun with our warts, mild alopecia, insignificant acnes and uncomplicated psoriasis. Whereas a few l's, a preponderance of cases of all kinds in sections 1, 2 and 3 reassures us at once that our time is not being wasted. How optimistic we are may be reflected in 5 and the extent to which we are trusted by our patients in 10. Whether discoid eczema in a housewife is catalogued **a**5 (to keep the hands out of water and to use some trusted salve) or **c**10 (to perform normal chores, realizing that the discomfort produced may do less to prevent recovery than having the work done by the husband's mother) depends on the general morale and intelligence of the clientele as much as on the diagnostic acumen of the clinician.

By means of histograms based on this classification it is possible to show graphically that in rural districts the threshold of discomfort or disfigurement at which patients clamour for specialist attention is much higher than in towns and that the proportion of patients suffering from real diseases is therefore much higher. But since it is impossible to deny the large subjective element in this classification the author has discreetly resisted the temptation to present his own as examples of what can be done.

But in order to complete any picture of the clinical scenery of a place it is of course necessary to give some hint of the diagnoses made. It may not be appreciated that a mere list of diagnoses is insufficient by itself, although in fact I have already indicated (Twiston Davies, 1941) that apart from epidemics of scabies, molluscum contagiosum and warts, the prevalence of sunburn and frost-bite and perhaps the location of carcinoma (e.g. facial or scrotal) it would be impossible to distinguish the nature of the work of one clinic from that of another by such a catalogue, whether arranged alphabetically or according to the most sophisticated aetiological classification.

Since the third diagnostic dimension is concerned with " ordinary " diagnosis it is necessary to devote a little space to the consideration of the classification of diseases. Undoubtedly we are still suffering from the illusion that since diseases of the skin are natural phenomena we must classify them in orders, families and species, like animals and plants. Before Linnaeus they were classified according to the clinical appearance of the lesion. To-day it may well be that they should be classified according to their social and economic effect.

Bazin was the first to recognize that no completely satisfactory classification could be based on a single system, morphological, pathological, or aetiological ; and subsequent authors have freely mixed up pathology, aetiology and anatomy in their partitions of the subject. The following system was originally devised mainly for the purpose of tracing patients for follow-up. For the purposes of clinical investigation one usually either wants to make a statistical

dy of a large number of cases of a common malady, or one is looking for a e disease or some unusual complication or feature that may help to throw nt on a common one. It so happened that the card used for the studies that ntually led up to the views expressed in this paper had only seven holes ilable for diagnosis. I found it possible, however, to divide my clinical terial into six fairly equal sections with a single modifier to separate out the e or two overwhelmingly common components in each of them.

Malformation, dysplasia and dysfunction	Acne, angioma, ulcus cruris
Neoplasms	Warts
Idiopathic diseases and dermadromes	Psoriasis, papular urticaria
Hair, nails and mucous membranes	Alopecia areata, pruritus ani seu vulvae
Specific infections	Scabies, ringworm
Reactions	Eczema

Two simple operations with a knitting needle usually sufficed to produce the ndle of cards required. A simplified classification now in use at the Manchester d Salford Hospital for Skin Diseases is based on the same principle of a more less natural group of diseases subdivided into the one or two fairly common es, and "others". They are Infestations, Specific Infections, Pyodermia, xic Idiopathies, Idiopathic Diseases, Tumours, Reactions to Trauma including oved cases of industrial dermatitis, Deficiency Metabolic Endocrine and culatory Diseases, Diseases of Hair Nails and Mucous Membranes. But for actical reasons we have had to add two more—"Blemishes" which includes the warts, angiomas, moles, and people demanding wigs; and "Mortal seases" which contains all our patients who are seriously ill, e.g. with mphigus, mycosis fungoides, disseminated lupus erythematosus, leukaemia, thropathic psoriasis, exfoliative erythrodermia, dermatomyositis, etc. This ssification serves the same purpose of collecting case notes but is better apted to the vastly greater mass of clinical material (30,000 new cases a year) d to being used by several clinicians who may have very few ideas in common. t for the purpose of three dimensional diagnosis I have ventured to depart a le from both these systems, which have worked very well for their special rposes. in order to obtain the maximum advantage from the other two mensions. The categories employed are as follows:

(i) Trauma (T). This contains the idea of accident, external injury and reversibility, and it represents the normal biological (including allergic) reactions of the skin to physical and chemical injury. Dermatitis medicamentosa is, of course, the common representative. Dermatitis produced by other external irritants (insofar as it is reversible!), burns, dog-bites, insect

stings, foreign bodies, granuloma, hypertrophic scar, drug eruption.

(ii) Infestations and Specific Infections (F). This includes insect bites (presumably a process rather than an accident on the part of the insect!) as well as parasitisms, all forms of infection—acute, self-limiting, or susceptible to specific therapy—and chronic conditions, such as leprosy and furunculosis, in which the theory of host-parasite relationship is more or less securely based.

(iii) Superficial Pyoderma, Seborrhoea, and Eczema (X for eXogenous This comprises every conceivable form of impetigo, seborrhoeic eczema, chronic dermatitis apparently caused or substantially aggravated and/or helped by external processes, and will contain everything about which we are not absolutely certain that it is wholly endogenous.

(iv) N (for eNdogenous). Deep pyoderma, prurigo, urticaria, toxic erythema, erythema multiforme, purpura, rosacea, and reactions including eczema and neurodermatitis however specific or banal, so long as the lesion appears to be mainly brought about by events on the other side of the skin.

(v) Malformations, Idiopathic and Bullous Diseases (M). It is obvious that linear eruption would get into this group on both sides of the family ! It includes also every kind of naevus, fixed or exanthematic (Darier's disease, seborrhoeic warts), as well as psoriasis, pityriasis rosea, lichen planus. The common ones, of course, are psoriasis and ichthyosis.

(vi) Tumours (E for Epithelioma) include not only more or less isolated warts, moles, angiomas, basal and squamous-celled carcinoma, but a host of less frequent tumours of interest to the histopathologist.

(vii) Dermodromes (D). Includes all sorts of endocrine, metabolic and deficiency diseases, cutaneous manifestations (other than neoplastic) of visceral disease, atrophies, and matters of interest to the neuro-vascular surgeon. The common ones are of course acne, lupus erythematosus, and ulcus cruris.

(viii) Diseases of appendages and mucous membranes (A). The common ones are alopecia areata and pruritus ani seu vulvae.

Since it could not be expected that the system could immediately fit in with everybody's ideas it is perhaps hardly worth while going into great detail, but I would venture to answer a few objections in advance. How can figures be compared—for example, those of a clinician who believes impetigo and seborrheic eczema to be infections by microbes with those of one who regards seborrhoeic eczema as an endocrine syndrome and impetigo as only just possibly influenced by external factors, e.g. light? The short answer is that it does not matter as long as he knows which maladies are self-limiting and which will intractably persist. The dusty answer is that we shall not be very much worse off than we

e now so long as some able people will persist in calling discoid eczema " toxic ythema " and some really stupid ones in calling impetigo " acute exudative oorrhoea ".

Anyhow, what is a wart ? A virus disease ? A benign epithelial neoplasm ? simply evidence of a lack of confidence in magic ? Again, whether we escribe a near placebo, 5, the forlorn hope of a placebo, 9, or a diagnostic terview with the psychiatrist, 12, will depend on the availability of the latter d perhaps on the state of our own unconscious mind.

It will be noted once more that each category of the third dimension contains e or two overwhelmingly common items for which in our formula the letter one will suffice, e.g. T for therapeutic accident, F for scabies and ringworm, for seborrhoea or streptococcal dermatitis (whatever we like to call it), N for zema, M for psoriasis, E for warts, D for acne and A for alopecia. If we want indicate that the case is worthwhile, interesting, or unusual we can either ace it in classes 1, 2 or 3 of the second dimension or we can use the modifier, at is to say put a bracket round it. Thus a case of alopecia areata quaintly nited to the eyelashes on one side might be **f**1A, while a case of dermatitis used by an unusual external irritant that we had had some entertainment in vestigating would be **c**3T. A case of psoriasis with pigmentation of the healed tes might be f(1)M because we thought of showing it at the next clinical eeting, whereas an ordinary though severe enough case of Darier's disease ould probably go down as **c**9(M).

The very fact of it being 3-dimensional creates certain difficulties, but the riter hopes that this classification of skin diseases will be of interest to those ho use any system of punched cards for filing their case-sheets, because a very mplete description of the case including adumbrations of social background, notional factors, clinical findings, and prognosis can all be brought within the mpass of thirty-one holes, including three with which to indicate whether we re dealing with a man, woman or child.

References.

AVIES, J. H. TWISTON (1941) *Brit. J. Derm.*, **53**, 319.
— - (1951) *Brit. J. phys. Med.*, **14**, 97.
UDLEY, SIR S. F. (1954) *Our National Ill Health Service.* London : Watts & Co., p. 49.

BOOK REVIEW.

The Medico-Chirurgical Encyclopaedia.*

This loose-leaf collection includes major articles by Touraine on coccal dermatoses and keratoses, together with short supplementary accounts of such things as acrylic resin sensitivity, nystatin, enteropathic acrodermatitis, steroid therapy, and silicone pastes.

Coccal dermatoses are dealt with in great detail and many varieties described which, though possibly familiar, are not usually distinguished in this country. Treatment is comprehensively and critically considered and includes useful accounts of antibiotics from penicillin to magnamycin.

Keratoses are discussed in two chapters—acquired and congenital . The latter is a masterly account by an acknowledged authority supplemented by excellent black and white pictures. It should prove an invaluable guide to anyone wishing to identify cases in the difficult groups of ichthyosiform erythrodermas and keratoses. In a final section Touraine attempts to unite those dysplasias which have as their common factors hyperkeratinization and often familial incidence under the term " congenital polykeratoses ".

The supplementary sections are accounts of recent work ; that on steroid therapy agrees very much with our own experience, though we cannot agree that " cortico-therapy " does not appear much better than the older treatments in pemphigus, nor that hydrocortisone ointment is only really active in strengths of 2·5 per cent.

This collection should be studied and kept as a reference book even by those who do not possess the complete encyclopaedia. F. F. H.

**Encyclopedie Medico-Chirurgicale No. 29. Specialized folder—Dermatology.* Published under the direction of Albert Touraine. 1955. Paris : Editions Techniques.

CORRESPONDENCE.

The Editor, 'British Journal of Dermatology,'

Sir,—The article on Acrodermatitis Enteropathica (**67**, 222) by Dr. I. S. Hodgson Jones is of considerable interest. The onset of the dermatosis in the postweaning period, its characteristic distribution, the failure of growth, hair changes, diarrhoea associated B-complex deficiency, mental changes and anaemia all appear to be characteristic of kwashiorkor. The absence of oedema and enlarged liver do not necessarily negative this diagnosis.

No quantitative measurements are given of the electrophoretic pattern of the plasma proteins, but the description and picture of the case simulate the kwashiorkor syndrome.

We are, etc.,

A. N. Chakraborty, M.B., F.R.F.P.S.
K. L. Mukherjee, M.B., B.S.

Calcutta School of Tropical Medicine.
November 1955.

CURRENT LITERATURE.

REIGN BODY GRANULOMAS AND BOECK'S SARCOID. L. Arzt. (1955) *J. invest. Derm.*, **24**, 155.

The mysterious association between sarcoidosis and pseudotuberculoma silicoticum is here y discussed. J. H. T. D.

OLINESTERASES IN HUMAN SKIN. O. R. Aavik. (1955) *J. invest. Derm.*, **24**, 103.

Thiocholine, liberated from acetylthiocholine by a specific esterase or from butyrylthiocholine non-specific esterase, is precipitated *in situ* by copper sulphate and rendered visible by reaction h ammonium sulphide. The presence of esterase activity in the pilomotor muscle is demonted in microphotographs of the very high quality that we have come to associate with the cago school. J. H. T. D.

STOPATHOLOGY OF PORPHYRIA CUTANEA TARDA. M. Feldaker, H. Montgomery and L. A. Brunsting. (1955) *J. invest. Derm.*, **24**, 131.

A clear and detailed description of all that was to be seen in 18 sections derived from 11 cases porphyria cutanea tarda, leading to the conclusion that the hisopathological picture is not in lf diagnostic. This paper, which should be read by all interested in cutaneous histopathology ers to new staining methods for polysaccharides and elacin. J. H. T. D.

PERIMENTAL MILIARIA. AN INSTANCE WITH STAPHYLOCOCCI AND CANDIDA IN THE LESIONS. J. P. O'Brien. (1955) *J. invest. Derm.*, **24**, 115.

Whereas, in a patient elsewhere affected with pustular prickly heat, the 4-day contact with r containing 1/10,000 merthiolate under an aluminium cup produced no visible change in the mal skin; the omission of the antiseptic led to the development, on a swollen reddened base, papules and pustules containing a lightly pigmented coagulase negative *Staph. aureus*. Serial sections showed that every sweat pore was obstructed, ducts dilated, Gram-positive cocci l mycelium (probably candida) in the terminal coils, and periductal abscesses. The control e was not sectioned.

The author discusses the importance in infection of the skin of local conditions of humidity and nperature, comparing the incidence of tinea pedis in conditions leading to hyperhidrosis with known climatic aetiology of miliaria. J. H. T. D.

E SITE OF STEROL AND SQUALENE SYNTHESIS IN THE HUMAN SKIN. N. Nicolaides and S. Rothman. (1955) *J. invest. Derm.*, **24**, 125.

Pieces of skin from a freshly amputated upper extremity were incubated for 7 hours in Ringer's ution containing isotopically labelled acetate. The covering epithelium continued to keratize with production of cholesterol, and the sebaceous glands to secrete. The distribution adio activity in the squalene and cholesterol extracted from different parts of the skin supports view that sebaceous glands secrete most of the squalene. Minimal radioactivity was detected, example, in the small quantities of squalene obtained from the palmar skin.

J. H. T. D.

CHARACTERIZATION OF BASOPHILIC DEGENERATION OF COLLAGEN BY HISTOCHEMICAL AND MICROSPECTROGRAPH PROCEDURES. P. O'B. Montgomery. (1955) *J. invest. Derm.*, **24**, 107.

Basophil collagen is opaque to light between 250 and 310 mμ. It contains no calcium, reduced n-specific esterase, more lipoid-free aldehyde groups, tyrosine and free carbonyl groups. Attention is drawn to the lack of information in regard to the association of these changes with coinoma. J. H. T. D.

TREATMENT OF XANTHELASMA WITH VITAMIN B_{12}. R. C. V. Robinson. (1955) *J. invest. Derm.*, **24**, 111.

Of 35 patients with xanthelasma treated with injections of vit. B_{12}, 5 were substantially improved and only 4 failed to benefit. Results were conspicuously less good in patients treated by mouth. There is no doubt, however, that the ingested vitamin reached the circulation ; nor any question that whatever action it may have is not on blood cholesterol levels.

The rationale of this work is not, however, clearly stated. J. H. T. D.

CHROMOMYCOSIS. REPORT OF FOUR MORE CASES IN JAMAICA. F. W. Jacobson, K. P. Clearkin and H. Annamanthodo. (1954) *W.I. med. J.*, **3**, 153.

All lesions occurred on the legs and were mainly verrucous, or fungating and grossly secondarily infected. Brown, thick-walled, round spores were found in each case and grown in culture in one and identified as *Philaphora verrucosa*. Three of the patients were wood cutters. The histological appearances were of pseudoepitheliomatous hyperplasia with underlying tuberculoid granulomata. The spores were either lying free or in giant cells. Treatment was by excision down to the deep fascia and was successful in the three cases in which it was practical. R. D. S.

SERUM PROTEINS IN LYMPHOGRANULOMA VENEREUM. J. S. Garrow. (1954) *W.I. med. J.*, **3**, 161.

In chronic cases the serum globulin is greatly increased and the serum albumin reduced, though not so much, so that the total amount of serum protein is higher than in controls.

R. D. S.

CARDIOVASCULAR SYPHILIS. John F. O'Brien, Clarence A. Smith and M. A. Fisher-keller. (1955) *Brit. J. vener. Dis.*, **31**, 74.

Certain interesting facts emerge from this detailed clinical study of 578 cases diagnosed as having cardiovascular syphilis before 1947. Treatment with bismuth alone, or in combination with arsenic, had no apparent effect in prolonging life or preventing the development of further cardiovascular complications and the prognosis was poorer for males than females. The authors conclude that the results obtained, after five or more years' observation following penicillin treatment of a small group of patients, indicate that penicillin is the drug of choice in this condition.

W. G. A.

EVALUATION OF CARDIOLIPIN ANTIGEN IN ROUTINE WASSERMAN REACTIONS. Sidney Shaw. (1955) *Brit. J. vener. Dis.*, **31**, 86.

A careful assessment of the value of cardiolipin antigen compared with standard antigen in over 7000 complement-fixation tests is made and the conclusions reached are that cardiolipin results in increased sensitivity but loss of specificity and that non-specific reactions were particularly evident with antenatal sera. (In view of the above findings the use of cardiolipin antigen is not to be recommended.) W. G. A.

THE LOCAL USE OF HYDROCORTISONE IN INFANTILE ECZEMA. R. P. Warin. (1955) *Practitioner*, **175**, 182

Forty cases were treated with either 1% or 2·5% hydrocortisone. In severe cases it was often necessary to apply the ointment four times daily, but in mild ones the eruption was controlled by one application daily or on alternate days. The face and natal cleft responded well, whereas the hands and feet, particularly the palms and soles, did not. No increased tendency to secondary infection or exacerbation after stopping treatment was noted. The only disadvantage of the treatment appears to be the expense. R. J. C.

MYXOMATOSIS. E. J. Moynahan. (1955) *Practitioner*, **174**, 709.

The virus that causes the disease belongs to the vaccinia or pox group. There has been no case of the disease in any animal other than members of the Lagomorph order. Man cannot be infected, although alleged human cases have been reported from time to time.

Several human maladies that superficially resemble myxomatosis are bullous erythema multiforme, Stevens-Johnson syndrome, atypical cases of chickenpox and smallpox, bullous herpetiformis, pemphigus vulgaris, angioneurotic oedema and certain drug rashes.

R. J. C.

AMINODIPHENYLSULPHONE IN DERMATITIS HERPETIFORMIS. Anthony Caspers. (1955) *Practitioner*, **174**, 719.

single case is reported in which D.D.S. 50 mg., thrice daily, controlled the eruption.

R. J. C.

OTROPIC MEDICATION IN CUTANEOUS LIPIDOSES. Marcel Sendrail and André Bazex. (1955) *Ann. Derm. Syph., Paris*, **82**, 241.

The authors have used the lipotropic substance "lipocaic" in 21 cases of xanthomata of ving types with some improvement. In 25 patients with psoriasis only 4 really cleared with caic alone, but some improved. F. F. H.

E PSYCHOGENIC ORIGIN OF PSORIASIS. M. Bolgert and M. Soulé. (1955) *Ann. Derm. Syph., Paris.*, **82**, 252

among 200 patients with psoriasis, 90% showed the presence of psychogenic factors; a chasthenic state was found in 52% and an anxiety state in 16%. Similar factors in relatives e present in 29·8%. In only 7·5% of patients were such factors in the patient or his heredity irely lacking. The authors suggest that there may be a specific substance of nervous origin ich determines the skin lesions. F. F. H.

INICAL AND HISTOLOGICAL STUDY OF BULLOUS URTICARIA. Van der Meiren and G. Achten. (1955) *Ann. Derm. Syph., Paris*, **82**, 267.

Three patients are described with bullous urticaria which was easily distinguished from matitis herpetiformis. Histological examination showed multilocular intra-epidermal bullae h marked dermal oedema. The bullae are probably formed by mechanical pressure of the ema from the dermis. F. F. H.

PUS ERYTHEMATOSUS PROFUNDUS OF KAPOSI-IRGANG. Oswaldo G. Costa. (1955) *Ann. Derm. Syph., Paris*, **82**, 144.

A fully reported case of lupus erythematosus with typical lupus erythematosus on the face l hypodermic nodules underlying atrophic areas of skin on the thighs and arms. A second case briefly described. The deep lesions showed histological changes similar to those found in the cera in acute lupus erythematosus. The article is supported by comments by Portugal and bello. F. F. H.

EMALIGNANT FIBRO-EPITHELIAL TUMOURS OF PINKUS AND BASAL CELL EPITHELIOMA. R. Degos and J. Hewitt. (1955) *Ann. Derm. Syph., Paris*, **82**, 124.

These rare tumours resemble seborrhoeic warts both clinically and histologically. Including authors' two cases, only nine have been reported, though probably many examples have n overlooked. Histologically they resemble the reticular form of seborrhoeic wart but the work is less regular and made up of both prickle and basal cells, which at times give rise to nour-like buds of basal cells. Horny cysts are rare and there is marked fibrous hyperplasia.

F. F. H.

LKER'S NODULES. C. E. Sonck and K. Penttinen. (1954) *Acta derm.-venereol., Stockh.*, **34**, 26.

A description of transmission from a patient to the first author, and thence to the second.

O. L. S. S.

IMARY AMYLOIDOSIS WITH SKIN MANIFESTATIONS. S. Fagerberg. (1954) *Acta derm.-venereol., Stockh.*, **34**, 409.

A survey of primary amyloidosis, with description of a case. O. L. S. S.

HE EFFECT OF TEMPERATURE ON DERMATOPHYTES. H. Paldrok. (1955) *Acta derm.-venereol., Stockh.*, **35**, 1.

This paper was read at the VIIIth International Botanical Congress in 1954. The author cepts only one genus of dermatophytes, viz. *Microsporum*, and 3 species, viz. *M. audouini*, . *gypseum* and *M. tonsurans*. He considers all other species to be differentde degenerative

stages of these three. He groups all the species into three: florentiform, rubriform and faviform: depending upon their growth. He describes the morphology in detail and in this light examines the effects of different temperatures upon the growth of 10 dermatophytes. The evidence supports his view that the less highly developed are actually only degenerative states of the more highly developed dermatophytes. This is a most interesting article which cannot be abstracted in detail. O. L. S. S.

PSORIASIS VACCINALIS. W. Raaschou-Nielsen. (1955) *Acta derm.-venereol., Stockh.*, **35**, 37.

From the literature 25 cases of guttate psoriasis beginning in vaccination scars are discussed, and the author adds two more cases: one after B.C.G. vaccination, the other after influenza vaccination. O. L. S. S.

SUNSCREENING OINTMENTS — SPECTROPHOTOMETRIC INVESTIGATIONS. F. Vogt Lorentzen. (1955) *Acta derm.-venereol., Stockh.*, **35**, 58.

The power of absorption of common sun-screening ointments varies considerably. The main cause is change in the emulsion so that the water phase separates or evaporates. There is considerable variability in absorptive power in individual sunscreens in different circumstances caused by chemical and physical changes. It is advisable to consider the optical conditions of the separate constituents when preparing such ointments. O. L. S. S.

ON THE TREATMENT OF LICHEN PLANUS. A. Kristjansen and F. Reymann. (1955) *Acta derm.-venereol., Stockh.*, **35**, 143.

Twenty-one out of 25 cases of ordinary lichen planus were healed after ACTH treatment given for an average of 14·2 days. Eleven relapsed after treatment was stopped. About two-thirds of the patients remained symptom-free for an 18-month follow-up. Eight cases of hypertrophic lichen planus responded well to the treatment but relapsed on cessation. O. L. S. S.

ON CASES OF DERMATITIS HERPETIFORMIS WITHOUT VESICULATION. v. G. Wagner. (1955) *Acta derm.-venereol., Stockh.*, **35**, 160.

The German literature of dermatitis herpetiformis without vesiculation is reviewed. Such cases, which are believed to be abortive, are common in North-West Germany, and the possibility of the influence of the Baltic Sea climate is considered. O. L. S. S.

ON OCCUPATIONAL DERMATOSES IN FINLAND. V. Pirila and O. Kilpio. (1954) *Acta derm.-venereol., Stockh.*, **34**, 395.

An analysis is made of the causes of 1752 cases of occupational dermatitis. O. L. S. S.

THE EFFECT OF BAL ON A CASE OF CUTANEOUS PORPHYRIA. K.-G. Paul and N. Thyresson. (1955) *Acta derm.-venereol., Stockh.*, **34**, 403.

BAL was given for 6 days to a patient with cutaneous porphyria. During treatment exposure to sunlight, which had hitherto produced itching and erythema, produced no reaction. O. L. S. S.

CEREBROSPINAL FLUID PROTEIN IN SYPHILIS. C.-H. Flodén. (1955) *Acta derm.-venereol., Stockh.*, **35**, Supp. 32.

This is a detailed monograph (184 pages) based on analyses of 3000 lumbar puncture examinations. *The first object* was to discover the most accurate and reliable method of estimating the CSF protein. The Izikowitz method seemed highly efficient and correlated well with results obtained by paper electrophoresis, but it was found that the "globulin" fraction consisted mainly of gamma globulin, while the "albumen" fraction consisted of albumen and alpha and gamma globulins. However, the method seemed more desirable than Pandy's or Nonne-Apelt's tests. *The second object* was to discover a "protein pattern" for cases of syphilis. This appeared to be an orderly increase in values thus: (i) globulin-albumen ratio; (ii) globulin-albumen ratio and globulin; (iii) globulin-albumen ratio, globulin and total protein; and (iv) globulin-albumen ratio, globulin, total protein and albumen as patients varied from primary, secondary, latent, meningo-vascular, tabes dorsalis, G.P.I., and neuro-syphilis. O. L. S. S.

ORIASIS AND ITS SPECIFIC VACCINE THEORY. T. Benedek. (1955) *Acta derm.-venereol., Stockh.*, **35**, Supp. 33.

This monograph reiterates the author's view that psoriasis is caused by " the severe bacteramia the *B. endoparasiticus* Benedek." He believes that pompholyx, pityriasis rosea and hidradenitis suppurativa, are aetiologically and pathogenically identical with seborrhoeic dermatitis and psoriasis. He claims successful treatment of seborrhoeic dermatitis and psoriasis with a vaccine prepared from " *B. endoparasiticus* Benedek".

For seborrhoeic dermatitis he gives no evidence to support this claim. He treated 34 psoriatic patients with vaccination and the process was arrested or healed in 7 to 28 weeks.

No controlled clinical experiments were apparently made, and no bacteriological or statistical evidence that will convince the sceptic is given. O. L. S. S.

OLD URTICARIA. T. Samsoe-Jensen. (1955) *Acta derm.-venereol. Stockh.*, **35**, 107.

A woman with cold urticaria was investigated. A positive passive transfer by the Prausnitz-Kistner method was obtained. Passive transfer was also obtained after the serum had been stored many months, and the threshold of its action was uninfluenced by cortisone treatment. O. L. S. S.

INVESTIGATIONS WITH RADIOACTIVE NICKEL. O. Nørgaard. (1955) *Acta derm.-venereol., Stockh.*, **35**, 111.

The study was made to determine whether nickel could be absorbed by the skin. It was shown that radioactive nickel sulphate solution was absorbed (two-thirds in 24 hours) by the skin. The absorption was the same in normal persons and those who were hypersensitive to nickel. O. L. S. S.

ULCUS CRURIS THERAPY IN PATIENTS HYPERSENSITIVE TO ADHESIVE TAPE. O. Gilje. (1955) *Acta derm.-venereol., Stockh.*, **35**, 122.

The author's well-known adhesive tape treatment for leg ulcers is briefly described. Of 2000 patients so treated, about 11% developed hypersensitivity to the elastic tape. An alternative self-adhering elastic bandage is described. O. L. S. S.

HYPOTHYROID PRURITUS. S. Goldblatt. (1955) *Acta derm.-venereol., Stockh.*, **35**, 167.

The author gave thyroid extract to 330 patients with factitial dermatitis in whom hysteria and deception had been eliminated as causes. All patients showed mild hypothyroidism. Results of treatment were better in the smaller group of private patients than in the larger group with major psychoses. O. L. S. S.

THROMBOCYTOPENIC PURPURA IN PREGNANCY. F. M. Newmark. (1955) *J. Amer. med. Ass.*, **158**, 646.

Thrombocytopenic purpura in pregnancy is rare and is often fatal. The case reported was treated by splenectomy and with cortisone and at the time of the report mother and child were well. A.J,R.

AN EPIDEMIC OF NORTH AMERICAN BLASTOMYCOSIS. J. Graham Smith, J. S. Harris, N. F. Conant and D. T. Smith. (1955) *J. Amer. med. Ass.*, **158**, 641.

The systemic form of North American blastomycosis was diagnosed in 11 patients in a small community in N. Carolina. Their ages ranged from 7 months to 77 years, but 6 were aged 16 or younger. The infant died, one child recovered spontaneously, and the other cases responded to stilbamidine or 2-hydroxystilbamidine. Three patients developed erythema nodosum, which has not previously been recorded in this disease. The cases were all of the pulmonary type but an indurated ulcer of the thigh was present in one patient. The source of the infection could not be determined. A. J. R.

RADIOACTIVE PHOSPHORUS IN THE DIAGNOSIS OF SKIN TUMOURS. F. K. Bauer and C. G. Steffen. (1955) *J. Amer. med. Ass.*, **158**, 563.

Radioactive phosphorus (P^{32}) was injected intravenously in doses of 100-150 c into patients with skin tumours of various types. It was found that significantly different counts could be

obtained later with a Geiger-Mueller tube. An increased concentration of P^{32} enables malignant melanomas to be differentiated from benign pigmented naevi. Epitheliomata give no distinctive findings. A. J. R.

HYDROCORTISONE THERAPY IN CONTROL OF ANOGENITAL PRURITUS. R. Turell (1955) *J. Amer. med. Ass.*, **158**, 173.

According to the author, who is a proctologist, hydrocortisone is used promiscuously and indiscriminately at present. He classifies his cases of pruritus ani into 8 groups. Most cases of intractable pruritus with lichenification responded well to topical hydrocortisone, but in about 25% the response was poor. None of 15 cases of refractory pruritus with cutaneous changes showed any response. Apart from some cases of haemorrhoids, pruritus secondary to anorectal lesions was seldom influenced by hydrocortisone. Since the treatment is purely symptomatic it may have to be continued indefinitely and should always be combined with other therapeutic measures. A. J. R.

PREDNISONE IN TREATMENT OF SELECTED DERMATOSES. H. M. Robinson. (1955) *J. Amer. med. Ass.*, **158**, 473.

Prednisone is a new synthetic steroid. Preliminary trials suggest that it is four to five times as active as cortisone or ACTH in the treatment of acute disseminated lupus erythematosus, pemphigus vulgaris, exfoliative dermatitis and atopic dermatitis, yet does not produce more frequent undesirable side effects. A. J. R.

THE CARDIOLOGIST LOOKS AT THE SKIN. J. J. Silverman and A. Bernstein. (1955) *J. Amer. med. Ass.*, **158**, 821.

A review of cutaneous lesions that may be present in conditions of interest to the cardiologist and which are often of great diagnostic value. Although most of the information given will be familiar to the dermatologist, this article deserves to be read if only for the brief accounts of certain syndromes which have recently been described; an endocrine hypertension, which must be differentiated from Cushing's syndrome, an hypertensive diencephalic syndrome with skin changes of vasomotor type, and a syndrome characterized by right-sided valvular disease and Carcinoid of the small intestine in which the earliest clinical manifestations are sudden flushing of the skin, patchy cyanosis and white blotches. A. J. R.

FUNGATING IODODERMA TREATED WITH HYDROCORTISONE. J. T. Aquilina and G. W. Bissell. (1955) *J. Amer. med. Ass.*, **158**, 727.

A male aged 37 developed a severe fungating iododerma after ingestion of an expectorant mixture containing potassium iodide. He was treated with 100 mg. hydrocortisone given intravenously at the rate of about 10 mg. per hour, and with topical hydrocortisone. He recovered but subsequently died of acute glomerulonephritis. A. J. R.

ON THE TREATMENT OF VARIATIONS OF PSORIASIS ("ACRODERMATITIS SUPPURATIVA HALLOPEAU"). C. Carrié. (1955) *Derm. Wschr.*, **132**, 715.

Good results from systemic cortisone therapy in 4 cases of psoriasis are reported. These cases showed different appearances at different times, such as psoriasiform dermatitis, pustular psoriasis and acrodermatitis suppurativa. It is considered that it is not justifiable to remove this group from psoriasis on account of its response to cortisone, which is usually absent in psoriasis vulgaris. The success is explained by the suggestion that in these cases there has been some upset of hormonal balance which cortisone corrects. W. G. T.

THE PATHOGENESIS OF SO-CALLED CHRONIC POLYMORPHIC LIGHT ERUPTION. I. L. Müller. (1955) *Derm. Wschr.*, **132**, 737.

After discussing the terminology and the literature the author gives details of 22 cases of chronic polymorphous light eruption. All cases had first manifestations before the age of thirty. Fifteen cases occurred in women and 7 in men. In one there was consanguinity and in another a family history of eczema. The histories of 3 cases are given in detail. These appear to allow the conclusion that the disease is the result of an abnormality of vascular innervation. Attention is also drawn to the presence of abnormal intestinal organisms in some cases. Treatment of the intestinal condition results in an improvement of the skin manifestations. W. G. T.

NEAR DERMATOSIS WITH SPINA BIFIDA. C. F. Funk. (1955) *Derm. Wschr.*, **132**, 792.

A girl aged 14 showed a linear dermatosis in the whole area of the first sacral segment. The ion had been present for 9 weeks and disappeared with local applications almost completely under 3 weeks. X-ray revealed spina bifida of the first sacral vertebra.

W. G. T.

LLOTRICHIA CIRCUMSCRIPTA SYMMETRICA CAPILLITII. W. Knierer. (1955) *Derm. Wschr.*, **132**, 794.

Symmetrical patches of growth of hair of pubic type on a normal scalp were observed in a udent aged 24. The author considers this to be a case of pubic hair naevus and is not aware this abnormality being reported before. W. G. T.

CUPATIONAL STIGMA IN A MOTOR MECHANIC. R. Frühwald. (1955) *Derm. Wschr.*, **132**, 794.

A motor mechanic showed three areas of pigmentation, two in the sacral region and one in e region of the left greater trochanter. These lesions are assumed to be the result of an unnoticed ld dermatitis caused by constant trauma from lying on the ground beneath cars and drenching clothing with oil. W. G. T.

I ARTHUS AND SHWARTZMAN-SANARELLI PHENOMENA. B. G. Swart. (1955) *Derm. Wschr.*, **132**, 810.

A patient with secondarily infected lupus vulgaris of the foot developed a severe local reaction th constitutional symptoms within 24 hours of being given 0·2 g. of isonicotinic acid hydrazide. is occurrence is explained as a Shwartzman-Sanarelli phenomenon. The secondary infection considered to have prepared the skin to enable it to produce the reaction. Treatment with TH was continued without further reaction and resulted eventually in considerable improvement the lesion. A similar case was reported by Riehl.

Typical of this reaction is the non-specific nature and rapid development.

The Arthus phenomenon, on the other hand, is a strongly specific reaction. It was met with in e days of tuberculin treatment. It was easily produced by sensitizing the patient first with a nimal dose of tuberculin and giving a large dose after fading of the reaction. This would sult on occasions in complete necrotic separation of the lupus lesion. W. G. T.

N ANAPHYLACTIC PURPURA. A. Steppert. (1955) *Derm. Wschr.*, **132**, 844.

A three-year-old boy developed a severe anaphylactic purpura 11 days after eating bad meat. hen severe intestinal haemorrhages occurred ACTH was started and a total dosage of only 0 mg. brought about almost complete recovery. There was a small amount of albumen in e urine on discharge. Bad meat, ham and sausages have been held responsible for attacks of aphylactic purpura before. Other causes includes drugs such as salicylic acid, organic arsenic d streptomycin. One case has been reported where operative measures in a patient suffering m pulmonary tuberculosis resulted in attacks on two occasions, the second being fatal.

Good results from treatment with ACTH and cortisone have been reported by a number of thors, though others found improvement to be only transient and one observed a deterioration der this treatment.

The author proposes to use this treatment in the most severe cases only. To the remainder he es pyramidon, sodium salicylate, vitamins C, K and P and antihistamines.

W. G. T.

HOLESTEROL TREATMENT IN ACNE VULGARIS AND SEBORRHOEIC DERMATITIS. G. Iványi and L. Forró. (1955) *Derm. Wschr.*, **132**, 848.

In view of the risk of oestrogen therapy of acne vulgaris the authors treated a series of cases ith cholesterol, either intramuscularly or by mouth.

In cases of infantile eczema the mother was treated in 5 instances and this treatment was fective in each case. Of a total of 44 cases, 33 improved, the 11 unsuccessful ones being mainly ne conglobata and indurata.

Blood cholesterol estimations showed no significant changes of the blood level as the result of is treatment.

Similarly the blood calcium level was unaffected. Cholesterol is thought to act either via the e suprarenals or directly on the sebaceous glands. W. G. T.

TUMOURS ARISING FROM CHRONIC ULCERATION. W. Knoth and W. Lanz. (1955) *Derm. Wschr.*, **131**, 570.

Six cases of neoplasm arising from chronic ulcerations in various parts of the skin are reported. Two were squamous epitheliomata, 3 basal celled tumours and one was partly squamous partly fibrosarcomatous. The origin of these tumours is explained on the basis of chronic inflammation aided by local applications some of which have known carcinogenic properties. W. G. T.

TREATMENT OF DEEP MYCOSES WITH ISONICOTINIC ACID HYDRAZINE. N. Simon. (1955) *Derm. Wschr.*, **131**, 598.

Four cases of actinomycosis were cured in 5–8 weeks with 8–10 grammes of the drug. One case of blastomycosis of the Gilchrist type was also rendered inactive by similar treatment, but 3 cases of the Busse-Buschke type remained unaffected. Superficial and deep trychophyton infections were not materially improved by either internal or topical use of the drug. *In vitro* there was only moderate fungistatic action in high concentrations. W. G. T.

SCLERODERMIA : CASE HISTORIES AND TREATMENT. A. Sperr. (1955) *Derm. Wschr.*, **131**, 617.

Histories of two cases of diffuse progressive sclerodermia with sclerodactyly are given. Both cases were in women and showed considerable improvement with penicillin and a combination of androgens and oestrogens. The aetiological theories are discussed and it is decided that the disease is probably a toxic-allergic process which affects mesenchymal tissues with an inherited organ inferiority. W. G. T.

BOECK'S SARCOID RESULTING FROM CUTANEOUS INFECTION WITH ATTENUATED TUBERCLE BACILLI. E. Thiel and E. Zschunke. (1955) *Derm. Wschr.*, **131**. 649

A laboratory assistant cut her finger with a glass pot which contained sputum from tuberculous patients under treatment with INH. Redness and swelling occurred after a few days. After 3 weeks a clinical diagnosis of Boeck's sarcoid was confirmed by biopsy. Improvement gradually occurred under treatment with INH and 18 months later only slight redness remained and the function had recovered. It is of interest that the resulting lesion was not lupus vulgaris or tuberculosis verrucosa cutis but Boeck's sarcoid. The explanation seems to be that attenuated organisms were accidently inoculated, and this speaks for a tuberculous aetiology of Boeck's sarcoid. W. G. T.

CHANGE OF HAIR COLOUR IN PATIENTS UNDER TREATMENT WITH CHLOROQUINE FOR KRAUROSIS VULVAE AND LUPUS ERYTHEMATOSUS. W. Knierer. (1955). *Derm. Wschr.*, **131**, 653.

The author reports bleaching of hair in female patients under treatment with chloroquine. W. G. T.

HISTOCHEMICAL STUDIES OF SKIN : LOCALIZATION OF DEHYDROGENASE ACTIVITY, PROTEIN BOUND SULPHYDRYL AND DISULPHIDE GROUPS. Alvan G. Foraker and William J. Wingo. (1955) *Arch. Derm. Syph. Chicago*, **72**, 1.

The first two, both related to cell function and growth, were found in viable epidermal cells, sweat and sebaceous glands and in hair root sheaths. Disulphide groups, related to cell keratinization, were found in keratinizing epidermal cells and in hair shafts. It is hoped to continue the study by investigating cutaneous neoplasms. J. K.

A LABORATORY EVALUATION OF SILICONE SKIN PROTECTIVE PREPARATIONS. Cleveland R. Denton, Donald J. Birmingham and Vernon B. Perone. (1955) *Arch. Derm. Syph. Chicago*, **72**, 7.

The results are presented in a somewhat unintelligible table (a summary of 10 other tables, obtainable on request, may make things clearer), but from the text one learns that two of the six commercial silicone preparations tested were superior to the others; nonsilicone preparations were in some instances better than silicone ones. White soft paraffin was as good a protective as any of them. J. K.

LSEROXYLON IN THE TREATMENT OF PRURITIC AND PSYCHOGENIC DERMATOSES. RICHARD J. FERRARA and HERMAN PINKUS. (1955) *Arch. Derm. Syph. Chicago.*, 72, 23.

Alseroxylon is a concentrate of the active alkaloids of the root of *Rauwolfia serpentina*. It was ven to 36 patients with good results, relief of pruritus and improvement of the skin condition. de effects were, in general, of little importance. J. K.

HE HISTOGENESIS OF SUPERFICIAL BASAL CELL EPITHELIOMAS : UNICENTRIC OR MULTICENTRIC ORIGIN. ARVE MADSEN. (1955) *Arch. Derm. Syph., Chicago*, 72, 29.

This is a somewhat didactic reiteration of observations published in 1941 and, because of the ar, apparently neglected. The so-called multicentric rodent ulcer is actually unicentric as will seen if serial horizontal sections are made instead of vertical. One will then see that the sion is a continuous thick reticulum of tumour tissue enclosing the papillae within its meshes. J. K.

YNTHETIC DETERGENTS : THEIR CHEMICAL AND DERMATOLOGICAL ASPECTS. GEORGE E. MORRIS. (1955) *Arch. Derm. Syph. Chicago*, 72, 43.

The chemical data with which this article starts are useful for reference and are presented in uite understandable form. As to the dermatological aspects; detergents do not cause more ouble than soaps, but when a patient states that a certain product " burns her hands " she should e advised to change to another. J. K.

HE CAUSES OF INFLAMMATORY ERYTHEMA. F. FLAVER. (1955) *J. invest. Derm.*, 24, 201.

" It is confusing to consider the latency of erythema the action-time of a stimulus capable of amage. The erythema is simply a fraction of the total latency. In other words the latency of ne erythema can be constant, beginning at the moment when the specific mechanisms are set in otion. . . . "

" The diverse latencies are essentially latencies of damage due to the various modes of action the causal stimuli. Having clarified this first essential point . . . " (!)

J. H. T. D.

HE EXPERIMENTAL ECZEMA OF THE GUINEA-PIG NIPPLE. W. JADASSOHN, E. BUJARD and R. BRUN. (1955) *J. invest. Derm.* 24, 247.

Doubt has recently been thrown on the validity, in eczema research, of experimental findings animals.

This is a histological account of events taking place in the skin of the nipple of guinea-pigs nsitized or unsensitized, after the application of various dilutions of dinitrochlorobenzene. J. H. T. D.

TUDIES ON THE ECZEMATOUS SENSITIZATION. IV. SENSITIZATION TO META-DINITROBENZENE AND ITS RELATION TO DINITROCHLOROBENZENE. A. ROSTENBURG. (1955) *J. invest. Derm.*, 24, 337.

It is supposed that the molecule of a sensitizing substance forming conjugates with protein nsists of two parts, the hapten and the specific configuration. Thus, supposing the halogen to e the linking component, sensitization to dinotrochlorobenzene would involve sensitization also DN bromo B and DN iodo B but not to DN amino B, the hapten not making a good fit ; nor 3-4-dichloronitrobenzene, the configuration being different. Now it is said to be possible to revent *in vitro* a precipitation reaction by occupying all the combining sites of the antibody olecule with haptens associated with a simple molecule insufficiently large to cause precipitation. ut it would appear that 3-4-meta-DNB has no hapten or, if it had, it would leave no configura-ional residue sufficiently resembling that of DN halogen B to act as was expected of it. And it licits no reaction in a DNCB sensitive animal. Soaking the animal with meta DNB therefore ailed to modify existing sensitivity to DNCB, but it did produce sensitization in animals not nsitive already. This is thought to be because the formation of protein conjugate with meta NB proceeds too slowly for it to make any significant contribution to an antigen-antibody eaction ; but, when crystals of the stuff are lying about in the tissues for some time, enough odd-ients are picked up by the reticuloendothelial system to condition that organ allergically towards he whole family. J. H. T. D.

PITFALLS IN THE INTERPRETATION OF L.E. PREPARATIONS. F. Pascher, A. Borota and B. Davis. (1955) *J. invest Derm.*, 24, 311.

In 322 samples of peripheral blood examined, by several techniques, for the presence of L.E. cells there were found disintegration-forms of leucocytes, the sort of thing that has been regarded in certain quarters as " pre-L.E. cells".

It turns out that these objects are to be found in the venous blood of most people and in ear-lobe blood after treatment with anticoagulants or centrifugation. Very large numbers were found in a case of allergic reaction to penicillin ; otherwise they appear to have no pathological significance. J. H. T. D.

PSEUDOPELADE OF BROCQ : ITS RELATIONSHIP TO SOME OF THE CICATRICIAL ALOPECIAS AND TO LICHEN PLANUS. J. Gay Prieto. (1955) *J. invest. Derm.*, 24, 323.

Pseudopelade constitutes as much as 0·65% of all new patients in the author's clinic.

Of his 32 cases only 5, 4 of which were cases of lichen planus, presented lesions of the glabrous skin or mucous membranes.

The author concludes from this study and from a survey of the literature that the name " pseudopeladic state " is to be preferred to pseudopelade. Two quotations will display the quality of the argument :

> " Of the 61 remaining cases 39 coincided with other lesions of the scalp some of which can be considered only as a fortuitous co-appearance of 2 different processes : the same thing can be said about the remaining 22 cases which showed coincident or healed lesions such as *hydradenoma* of the eyelids lupus erythematosum scleroderma Pick-Herxheimer disease ";

and

> " Fig. 2. Photomicrograph of another non-follicular lichen planus papule of a patient with pseudopelade without concomitant lichen planus. Scalp." J. H. T. D.

ALLERGIC SENSITIZATION AND PHOTOSENSITIZATION TO PHENERGAN CREAM. E. Sidi, M. Hinky and A. Gervais. (1955) *J. invest Derm.*, 24, 345.

To those who have not yet come to realize the self-destructive propensities of mankind it must be a continual source of amazement that out of an unlimited host of accredited remedies for skin trouble the first choice of a majority of general practitioners, ambulance workers and pharmacists should invariably be a notoriously dangerous irritant long since proved to have no therapeutic value. In the U.K. it is still penicillin ; in the experience of these French authors in 1953 50% of all cases of dermatitis medicamentosa were brought about by phenergan cream.

In the course of 3 years phenergan was suspected in 262 cases and the patch tests were positive in 128. In 83 of these, tests were performed with the commercial cream, the vehicle and aqueous solution of the drug separately. In 27 the vehicle gave positive and the drug negative skin reactions ; but ingestion of the drug was followed by flare of lesions.

The authors mention that while in the past they had used aqueous solutions of the drug in the treatment of pruritus ani with a negligible number of sensitizations, the ingestion test suggests that to-day large numbers of skin patients are potentially intolerant. A severely disabling light sensitivity complicates many of the cases just as it did in the '40's in the case of another favourite skin-panacea—sulphonamide paste. The authors point out some of the possibilities of cross sensitization and warn us that if we are not more careful we shall find our patients incapacitated both from dyeing their hair with paraphenylenediamine and from soothing their consciences with Largactil, both of which are chemically related to phenergan. J. H. T. D.

SULZBERGER'S METABOLITE X. A PERSONAL REMINISCENCE. S. Rothman. (1955) *J. invest. Derm.*, 24, 343.

The author argues that because Grant *et al.* have succeeded in proving that heat urticaria is mediated by acetylcholine, Sulzberger is probably right in his hypothesis that the wheals provoked by stroking, cold, ultraviolet rays of around 3200 Å and violet rays (4000 to 5000Å), etc., represent antigen-antibody reactions, the antigen being the normally harmless metabolite secreted or formed in response to the physical stimulus. J. H. T. D.